Peer Review Approach

The peer review approach was implemented to increase scientific review of documents and draft criteria during re-evaluation of stream temperature criteria in EPA Region 10.
The panel consisted of scientists with expertise in fish physiology, aquatic ecology, hydrology, landscape ecology, historical ecology and temperature modeling. Under a contract between Oregon State University and EPA, I have performed the duties of establishing, managing and directing the Peer Review Panel. I selected the panel members, organized the meetings and submitted the summary comments and reviews to EPA.

Sherri Johnson, Ph.D.

Peer Review Panel for EPA Region 10 Stream Temperature Criteria

Sherri L. Johnson, Research Assistant Professor, Department of Fisheries and Wildlife, Oregon State University. Lead Scientist for Panel. As of Aug 2001, Research Ecologist at the USDA Forest Service, Pacific Northwest Research Station. Research interests include the effects of hydrologic and climatic disturbances on stream communities, riparian influences on stream food webs, stream temperature dynamics at the reach to landscape scale and mechanisms responsible for those patterns.

John Bartholow, US Geological Survey/Biological Resource Division, Fort Collins, CO Designed, developed, tested, and transferred methods to assess the impacts of water development activities on aquatic ecosystems nationwide. Expert in stream temperature and applied wildlife population modeling.

Robert L. Beschta, Retired, Professor of Forest Hydrology, Oregon State University Conducted research on a wide range of watershed issues associated with forest and rangeland practices including effects of riparian vegetation on stream temperatures, stream temperature modeling, suspended and bedload sediment transport of mountain streams, hydrology of wetlands, peakflow simulation models, and the influence of management upon stream water quality.

Susan Bolton, Associate Professor, Forestry and Director of Center for Streamside Studies, University of Washington. Research interests include effects of land use on surface water quality, quantity and stream habitat, temperature in headwater streams, sediment production from forest roads, and prioritization of restoration areas.

Joseph L. Ebersole, Ph.D. Candidate, Department of Fisheries and Wildlife, Oregon State University. Dissertation in progress: Thermal refugia and salmon life histories in the Grande Ronde Basin. Research interests include physical-biotic interactions in streams, fish behavior and life history, geomorphic influences on aquatic systems, and restoration ecology.

Christopher A. Frissell, Research Associate Professor, University of Montana, Flathead Lake Biological Station. As of 12/2000, Senior Research Scientist, Pacific Rivers Council. Research has focused on cumulative impacts of human activities and natural processes on stream habitat and stream biota, ecology, biogeography, and conservation biology of fishes and aquatic biota in relation to landscape change, aquatic ecosystem conservation and restoration strategies, and natural resources planning and policy.

A. Kurt Gamperl, Assistant Professor, Department of Organismal Biology, Portland State University. Research focuses on fish physiology with particular interest in mechanisms that control cardiovascular function, physiological/morphological adaptations to environmental parameters and metabolic responses to differing temperatures.

Stanley V. Gregory, Professor, Department of Fisheries and Wildlife, Oregon State University. Research has focused on stream ecosystems, influence of human activities on ecosystem structure and function, landscape perspectives and historical reconstruction of rivers and riparian forests. Serves on numerous review teams including Oregon's IMST, Governors Science Panel for State of the Environment.

Scott G. Hinch, Associate Professor, Department of Forest Sciences and Institute for Resources and Environment, University of British Columbia. Research interests include understanding behaviour and energy use of up-river migrating salmon, evaluating the impacts of forestry and other land-uses on stream fish energetics, movement, stress, growth and survival, and biophysical modeling of salmon migration and production in the northeast Pacific.

Christopher A. Myrick, Assistant Professor, Department of Fishery & Wildlife Biology, Colorado State University. Research has focused on effects of constant and cyclical temperatures on the growth, bioenergetics and thermal biology of juvenile chinook salmon (*Oncorhynchus tshawytscha*), on the effects of temperature and ration size on the bioenergetics and physiological performance of juvenile chinook salmon, and egg, larval, and juvenile rainbow trout (*Oncorhynchus mykiss*), and on growth, food consumption, thermal tolerance, thermal preference, respiration and swimming performance of multiple fish species.

Gretchen Oosterhout, Principle, Decision Matrix, Inc. Research involves systems and decision analysis. Projects include risk assessments of fisheries stocks, ecosystem resource decision analysis, computer modeling and simulations.

Todd N. Pearsons, Ecologist, Washington State Department of Fish and Wildlife. Research has focused on ecological interactions among hatchery and wild salmonids, behavioral guidance technologies, fish and habitat relationships, endangered species conservation, ecological risk assessment and containment, adaptive management, and monitoring plan development.

Gordon Reeves, Research Fisheries Biologist, USFS, Pacific Northwest Research Laboratory. Research has focused on forest-stream interactions, disturbance and landscape dynamics, habitat influences on salmonid distributions and fish community behavioral responses to temperature.

John G. Williams, Independent consultant, Davis, CA. Served in multiple scientific roles in the CALFED Bay-Delta Program. Chair, geomorphology and riparian issues work team, Comprehensive Assessment and Monitoring Program (CMARP) and as member of core teams evaluating restoration flows on Sacramento River, fish management and hatchery operations. Served as court appointed Water Master in instream flow disputes.

John Bolte, Associate Professor, Dept of Bioresource Engineering, Oregon State University. Areas of specialization include mathematical modeling and simulation of agricultural, aquacultural and environmental systems, Geographic Information Systems-based spatial modeling, and artificial intelligence applications in bioresource management.

1st Panel - June 2000: Todd Pearsons, Bob Beschta, Joe Ebersole, Scott Hinch, Chris Myrick, John Williams, Chris Frissell, John Bartholow, Sherri Johnson

2nd Panel - Feb 13-14, 2001: Kurt Gamperl, Susan Bolton, Gretchen Oosterhaut, Gordon Reeves, Stan Gregory, John Bartholow, Joe Ebersole, John Williams, Sherri Johnson

3rd Panel - Nov 8, 2001: Gordon Reeves, Stan Gregory, John Bartholow, Susan Bolton, John Williams, John Bolte, Bob Beschta, Sherri Johnson